Hana El-Samad

List of Publications by Year
in descending order

67 papers	5,155 citations	172457 29 h-index	149698 56 g-index
77 all docs	77 docs citations	77 times ranked	6736 citing authors

#	Article	IF	Citations
1	Defining Network Topologies that Can Achieve Biochemical Adaptation. Cell, 2009, 138, 760-773.	28.9	1,354
2	Conformational biosensors reveal GPCR signalling from endosomes. Nature, 2013, 495, 534-538.	27.8	713
3	BiP Binding to the ER-Stress Sensor Ire1 Tunes the Homeostatic Behavior of the Unfolded Protein Response. PLoS Biology, 2010, 8, e1000415.	5.6	369
4	In silico feedback for in vivo regulation of a gene expression circuit. Nature Biotechnology, 2011, 29, 1114-1116.	17.5	263
5	De novo design of bioactive protein switches. Nature, 2019, 572, 205-210.	27.8	190
6	De novo design of protein logic gates. Science, 2020, 368, 78-84.	12.6	151
7	Cellular Noise Regulons Underlie Fluctuations in Saccharomyces cerevisiae. Molecular Cell, 2012, 45, 483-493.	9.7	143
8	Homeostatic adaptation to endoplasmic reticulum stress depends on Ire1 kinase activity. Journal of Cell Biology, 2011, 193, 171-184.	5.2	140
9	Low Dimensionality in Gene Expression Data Enables the Accurate Extraction of Transcriptional Programs from Shallow Sequencing. Cell Systems, 2016, 2, 239-250.	6.2	130
10	Population Diversification in a Yeast Metabolic Program Promotes Anticipation of Environmental Shifts. PLoS Biology, 2015, 13, e1002042.	5.6	110
11	Fund Black scientists. Cell, 2021, 184, 561-565.	28.9	107
12	Modular and tunable biological feedback control using a de novo protein switch. Nature, 2019, 572, 265-269.	27.8	96
13	Bound attractant at the leading vs. the trailing edge determines chemotactic prowess. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 13349-13354.	7.1	95
14	Module-Based Analysis of Robustness Tradeoffs in the Heat Shock Response System. PLoS Computational Biology, 2006, 2, e59.	3.2	89
15	Synergistic dual positive feedback loops established by molecular sequestration generate robust bimodal response. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, E3324-33.	7.1	76
16	Regulated Degradation Is a Mechanism for Suppressing Stochastic Fluctuations in Gene Regulatory Networks. Biophysical Journal, 2006, 90, 3749-3761.	0.5	68
17	Real-Time Genetic Compensation Defines the Dynamic Demands of Feedback Control. Cell, 2018, 175, 877-886.e10.	28.9	67
18	Design and Analysis of a Proportional-Integral-Derivative Controller with Biological Molecules. Cell Systems, 2019, 9, 338-353.e10.	6.2	67

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19	Robust Synthetic Circuits for Two-Dimensional Control of Gene Expression in Yeast. ACS Synthetic Biology, 2017, 6, 545-554.	3.8	63
20	Basic leucine zipper transcription factor Hac1 binds DNA in two distinct modes as revealed by microfluidic analyses. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, E3084-93.	7.1	61
21	Coordinate control of gene expression noise and interchromosomal interactions in a MAP kinase pathway. Nature Cell Biology, 2010, 12, 954-962.	10.3	59
22	Transcriptional rewiring over evolutionary timescales changes quantitative and qualitative properties of gene expression. ELife, 2016, 5, .	6.0	54
23	Combinatorial, site-specific requirement for heterochromatic silencing factors in the elimination of nucleosome-free regions. Genes and Development, 2010, 24, 1758-1771.	5.9	52
24	Msn2 Coordinates a Stoichiometric Gene Expression Program. Current Biology, 2013, 23, 2336-2345.	3.9	51
25	Systematic analysis of asymmetric partitioning of yeast proteome between mother and daughter cells reveals â€œaging factorsâ€• and mechanism of lifespan asymmetry. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 11977-11982.	7.1	51
26	A Toolkit for Rapid Modular Construction of Biological Circuits in Mammalian Cells. ACS Synthetic Biology, 2019, 8, 2593-2606.	3.8	49
27	Tuning the Activation Threshold of a Kinase Network by Nested Feedback Loops. Science, 2009, 324, 509-512.	12.6	48
28	Delayed Ras/PKA signaling augments the unfolded protein response. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 14800-14805.	7.1	45
29	Dynamic characterization of growth and gene expression using high-throughput automated flow cytometry. Nature Methods, 2014, 11, 443-448.	19.0	40
30	Optogenetic Control Reveals Differential Promoter Interpretation of Transcription Factor Nuclear Translocation Dynamics. Cell Systems, 2020, 11, 336-353.e24.	6.2	37
31	Biological feedback controlâ€"Respect the loops. Cell Systems, 2021, 12, 477-487.	6.2	35
32	Building robust functionality in synthetic circuits using engineered feedback regulation. Current Opinion in Biotechnology, 2013, 24, 790-796.	6.6	27
33	Model-guided optogenetic study of PKA signaling in budding yeast. Molecular Biology of the Cell, 2017, 28, 221-227.	2.1	20
34	Not all quiet on the noise front. Nature Chemical Biology, 2009, 5, 699-704.	8.0	17
35	Using Dynamic Noise Propagation to Infer Causal Regulatory Relationships in Biochemical Networks. ACS Synthetic Biology, 2015, 4, 258-264.	3.8	17
36	Control theoretical concepts for synthetic and systems biology. Current Opinion in Systems Biology, 2019, 14, 50-57.	2.6	16

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37	Multicellular Architecture of Malignant Breast Epithelia Influences Mechanics. PLoS ONE, 2014, 9, e101955.	2.5	16
38	Multidimensional Characterization of Parts Enhances Modeling Accuracy in Genetic Circuits. ACS Synthetic Biology, 2020, 9, 2917-2926.	3.8	15
39	De novo design of tyrosine and serine kinase-driven protein switches. Nature Structural and Molecular Biology, 2021, 28, 762-770.	8.2	14
40	Multi-kinase control of environmental stress responsive transcription. PLoS ONE, 2020, 15, e0230246.	2.5	12
41	Stress-induced growth rate reduction restricts metabolic resource utilization to modulate osmo-adaptation time. Cell Reports, 2021, 34, 108854.	6.4	12
42	Orthogonal control of mean and variability of endogenous genes in a human cell line. Nature Communications, 2021, 12, 292.	12.8	11
43	A data-integrated method for analyzing stochastic biochemical networks. Journal of Chemical Physics, 2011, 135, 214110.	3.0	10
44	Stochastic Modeling of Cellular Networks. Methods in Cell Biology, 2012, 110, 111-137.	1.1	10
45	A population shift between two heritable cell types of the pathogen <i>Candida albicans</i> is based both on switching and selective proliferation. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 26918-26924.	7.1	10
46	Algorithms for Discriminating Between Biochemical Reaction Network Models: Towards Systematic Experimental Design. Proceedings of the American Control Conference, 2007, , .	0.0	8
47	The Impact of Different Sources of Fluctuations on Mutual Information in Biochemical Networks. PLoS Computational Biology, 2015, 11, e1004462.	3.2	8
48	Noise rules. Nature, 2011, 480, 188-189.	27.8	7
49	A master equation and moment approach for biochemical systems with creation-time-dependent bimolecular rate functions. Journal of Chemical Physics, 2014, 141, 214108.	3.0	6
50	Tradeoffs in adapting biological systems. European Journal of Control, 2016, 30, 68-75.	2.6	5
51	Competitive Displacement of <i>De Novo</i> Designed HeteroDimers Can Reversibly Control Proteinâ€"Protein Interactions and Implement Feedback in Synthetic Circuits. , 2022, 1, 91-100.		4
52	Coherence Resonance: A Mechanism for Noise Induced Stable Oscillations in Gene Regulatory Networks. , 2006, , .		3
53	Director Lander, the time is now. Science, 2021, 373, 7-7.	12.6	3
54	Assembly of Genetic Circuits with the Mammalian ToolKit. Bio-protocol, 2020, 10, e3547.	0.4	3

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55	Can a Systems Perspective Help Us Appreciate the Biological Meaning of Small Effects?. Developmental Cell, 2011, 21, 11-13.	7.0	2
56	The Vision for <i>GEN Biotechnology</i>: From Precision Biology to Engaging a Broad Audience. , 2022, 1, 21-25.		2
57	Complexity-aware simple modeling. Current Opinion in Microbiology, 2018, 45, 47-52.	5.1	1
58	Synthetic transcriptional synergy. Science, 2019, 364, 531-532.	12.6	1
59	A non-memoryless stochastic simulation algorithm for modeling diffusion-reactions on biological membranes. , 2012, , .		0
60	Modeling and simulation of cellular functions. Molecular Biology of the Cell, 2012, 23, 972-972.	2.1	0
61	Module-Based Analysis of Robustness Tradeoffs in the Heat Shock Response System. PLoS Computational Biology, 2005, preprint, e59.	3.2	0
62	Generosity of Spirit. , 2022, 1, 113-114.		0
63	Multi-kinase control of environmental stress responsive transcription. , 2020, 15, e0230246.		0
64	Multi-kinase control of environmental stress responsive transcription. , 2020, 15, e0230246.		0
65	Multi-kinase control of environmental stress responsive transcription. , 2020, 15, e0230246.		0
66	Multi-kinase control of environmental stress responsive transcription. , 2020, 15, e0230246.		0
67	The Human Right to Our Bodies. , 2022, 1, 207-207.		0